

Interdisciplinary researcher in the fields of microbiology and geochemistry, studying microorganisms that produce and consume the greenhouse gas methane using both experimental and theoretical methods. Led scientific collaborations between the US, Germany, and Israel, and served on conferences committees and seminars promoting the exchange of ideas between early career researchers. Out of academia, I am an expert hiking guide with a decade-long experience leading groups mainly in the hyper-arid Negev Desert, exploring the unique relationships between history, nature, and the human spirit.

## Education

- 2022 **PhD**, *Chemical Sciences*, Department of Earth and Planetary Sciences, Weizmann Institute of Science, Israel, *Advisor: Itay Halevy*  
Thesis title: "Modeling the Stable Isotopic Composition of Microbial Methane"
- 2017 **MSc**, *Life Sciences*, Department of Earth and Planetary Sciences, Weizmann Institute of Science, Israel, *Advisor: Itay Halevy*  
Thesis title: "Understanding Isotope Fractionation during Microbial Methane Production"
- 2014 **BSc**, *Biotechnology*, Tel-Hai Academic College, Israel  
*Summa Cum Laude*, 96.5/100

## Professional Experience

- 2022–Present **Postdoctoral Research Fellow**, *University of California, Berkeley*
- 2015–2022 **Graduate Research Student**, *Weizmann Institute of Science*
- 2013–2014 **Research Assistant**
  - Migal Research Institute (Immunology Lab)
  - Hadassah Medical Center (Institute of Gene Therapy)

## Publications

† Corresponding author, \* Equal contribution

- 2022 **Gropp, J.**<sup>†</sup>, Jin, Q., Halevy, I., *Controls on the isotopic composition of microbial methane*, *Science Advances*, DOI: 10.1126/sciadv.abm5713
- 2021 Wegener G.\*, **Gropp J.**\*<sup>†</sup>, Taubner H., Halevy I., Elvert M., *Reversibility of intracellular reactions explains opposing isotopic effects in the anaerobic oxidation of methane*, *Science Advances*, DOI: 10.1126/sciadv.abe4939
- 2021 **Gropp, J.**<sup>†</sup>, Iron, MA., Halevy, I., *Theoretical estimates of equilibrium carbon and hydrogen isotope effects in microbial methane production and anaerobic oxidation of methane*, *Geochimica et Cosmochimica Acta*, DOI: 10.1016/j.gca.2020.10.018
- 2019 Iron MA. and **Gropp J.**, *Cost-effective Density Functional Theory (DFT) calculations of equilibrium isotopic fractionation in large organic molecules*, *Phys. Chem. Chem. Phys.*, DOI: 10.1039/C9CP02975C

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## Technical Skills

Research Anaerobic cell cultures, High-resolution isotope ratio mass spectrometry, Numerical modeling, Development of metabolic models, Molecular biology, DFT calculations  
Programming MATLAB, PYTHON, COPASI

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## Other Skills

2015–2021 **Science News Reporter**, *Davidson Institute of Science Education online website*  
2008–2010 **Professional Hiking Guide**, *Sde-Boker Field School, Negev desert, Israel*

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## Awards and Honors

2022–2024 **EMBO Postdoctoral Fellowship**, *European Molecular Biology Organization (\$176,400)*  
2022 **Next-gen Environmental Sustainability Postdoc Award**, *Weizmann Sustainability And Energy Research Initiative (\$20,000)*  
2021 **Best Poster**, *MicroEco2, Microbial ecology symposium (\$100)*  
2019–2022 **Sustainability And Energy Research Initiative (SAERI) PhD fellow**, *Weizmann Institute of Science (\$45,000)*  
2017 **Best Talk**, *Meeting of the Israeli Association of Aquatic Sciences (\$250)*  
2014 **President's Award for Academic Excellence**, *Tel-Hai College (\$7,750)*

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## Service

**Reviewer**, For the journals *Science Advances*, *Geochimica et Cosmochimica Acta*, *Applied Geochemistry*, *Waste Management*, *ACS Earth and Space Chemistry*, *Chemical Geology*

### Conference Organizing Committee

- 2019 - *EPScon* - A student-organized conference for Earth and Planetary Sciences
- 2020–2022 - *MicroEco Seminar* - A seminar series for microbial ecology